15. (Amended) The method of any of claims 1, wherein the organic molecule inhibits hedgehog-mediated signal transduction with an ED_{50} of 1 mM or less.

16. (Amended) The method of any of claims 1, wherein the organic molecule inhibits hedgehog-mediated signal transduction with an ED_{50} of 1 μM or less.

17. (Amended) The method of any of claims 1, wherein the organic molecule inhibits hedgehog-mediated signal transduction with an ED_{50} of 1 nM or less.

20. The method of claim 1, wherein the organic molecule is administered as part of a therapeutic or cosmetic application.

21. The method of claim 1, wherein the organic molecule is administered to treat a condition selected from regulation of neural tissues, bone and cartilage formation and repair, regulation of spermatogenesis, regulation of smooth muscle, regulation of lung, liver and other organs arising from the primitive gut, regulation of hematopoietic function, and regulation of skin and hair growth.

22. (Amended) The method of claim 1, wherein the organic molecule is administered as a topical formulation to skin to inhibit aberrant proliferation of epithelial cells.

23. The method of claim 1, wherein the organic molecule is administered to the patient to inhibit growth of a basal cell carcinoma.

27. A method for inhibiting unwanted activation of a *hedgehog-patched* pathway in an animal, comprising topically administering to the animal a composition comprising a purified hedgehog antagonist in a sufficient amount to reduce the unwanted activation of the *hedgehog-patched* pathway in a cell of the animal, wherein the hedgehog antagonist is an organic molecule having a molecular weight less than 750 amu and which binds to *smoothened* and lessens the severity of a *hedgehog* gain-of-function, *patched* loss-of-function, or *smoothened* gain-of-function phenotype.

28. (Amended) A method for inhibiting unwanted activation of a *hedgehog-patched* pathway in an animal, comprising topically administering to the animal a composition comprising a purified hedgehog antagonist, ~~or prodrug form thereof~~ which is converted to a hedgehog antagonist under physiological conditions of the host animal, in a sufficient amount to reduce the unwanted activation of the *hedgehog-patched* pathway in a cell of the animal, wherein the hedgehog antagonist is an organic molecule which interacts with *smoothened* lessens the severity of a *hedgehog* gain-of-function, *patched* loss-of-function, or *smoothened* gain-of-function phenotype.

~~36.~~ A method for inhibiting unwanted activation of a *hedgehog-patched* pathway in an animal, comprising

providing a cell,

treating the cell with a test compound, wherein the test compound is an organic molecule having a molecular weight less than 750 ~~amu~~,

detecting a decrease in the level of activation of a ~~hedgehog-patched~~ pathway in the cell indicative of a *hedgehog* inhibitory activity of the test compound, and

administering to the animal a composition comprising the test compound having a *hedgehog* inhibitory activity in an amount sufficient to reduce the activation of a *hedgehog-patched* pathway in a cell of the patient.

The claims presented above incorporate changes as indicated by the marked-up versions below.

1. (Amended) A method for inhibiting unwanted activation of a *hedgehog-patched* pathway in an animal, comprising administering to the animal a composition comprising a purified organic molecule having a molecular weight less than 750 amu in an amount sufficient to reduce the activation of the *hedgehog-patched* pathway in a cell, wherein the organic molecule ~~binds to~~interacts with *smoothened* and lessens the severity of a *hedgehog* gain-of-function, *patched* loss-of-function, or *smoothened* gain-of-function phenotype.

15. (Amended) The method of any of claims 1-~~3~~, wherein the organic molecule inhibits hedgehog-mediated signal transduction with an ED_{50} of 1 mM or less.

16. (Amended) The method of any of claims 1-~~3~~, wherein the organic molecule inhibits hedgehog-mediated signal transduction with an ED_{50} of 1 μM or less.

17. (Amended) The method of any of claims 1-~~3~~, wherein the organic molecule inhibits hedgehog-mediated signal transduction with an ED_{50} of 1 nM or less.

20. The method of claim 1, wherein the organic molecule is administered as part of a therapeutic or cosmetic application.

21. The method of claim 1, wherein the organic molecule is administered to treat a condition selected from regulation of neural tissues, bone and cartilage formation and repair, regulation of spermatogenesis, regulation of smooth muscle, regulation of lung, liver and other organs arising from the primitive gut, regulation of hematopoietic function, and regulation of skin and hair growth.

22. (Amended) The method of claim 1, wherein the organic molecule is administered ~~[applied]~~ as a topical formulation to skin to inhibit aberrant proliferation of epithelial cells.

23. The method of claim 1, wherein the organic molecule is administered to the patient to inhibit growth of a basal cell carcinoma.

27. A method for inhibiting unwanted activation of a *hedgehog-patched* pathway in an animal, comprising topically administering to the animal a composition comprising a purified hedgehog antagonist in a sufficient amount to reduce the unwanted activation of the *hedgehog-patched* pathway in a cell of the animal, wherein the hedgehog antagonist is an organic molecule having a molecular weight less than 750 amu and which binds to *smoothened* and lessens the severity of a *hedgehog* gain-of-function, *patched* loss-of-function, or *smoothened* gain-of-function phenotype.